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Journal Mission

The mission of *Journal of Computational Physics* is to publish (i.e., to announce, to send forth, to put into circulation) material that will assist in the reliable and accurate computation of scientific problems, especially those in the physical and engineering sciences. To qualify for publication a paper needs to meet criteria of suitability, correctness, significance, and presentation. The mission of *JCP* is not to validate research and then to archive it in a form that improves the author's chances of tenure or promotion.

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Generally, a paper suitable for *JCP* will be concerned with the development or testing of algorithms for scientific computing. Hardware design will not usually be of interest, but issues of computer science are if they impact on the algorithms, e.g., efficient use of machine architecture. Papers having a largely mathematical content are acceptable provided they are clearly addressed to a practical objective, but if the interest resides largely in the technicalities of the proofs there are more suitable journals. Papers that employ standard algorithms in order to explore some specific application should normally be sent to a journal specializing in that application.

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- describe a method that improves substantially on either the accuracy or the efficiency of previous methods, or
- extend an established method to make it more widely applicable, or
- analyze an existing method to give greater insight or confidence in its use, or
- develop discrete models of some significant physical problem, or
- analyze the nature of some computational problem in a way that sheds light on how it may possibly be solved.

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